

New records of orchids from Hainan, China

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Abstract One genus and species, *Micropera poilanei* (Guill.) Garay, together with other two species, *Liparis sparsiflora* Aver. and *Nephelaphyllum pulchrum* Bl., are newly recorded in China; five species are reported as new records to Hainan Island, China, viz., *Panisea cavaleriei* Schltr., *Panisea yunnanensis* S. C. Chen & Z. H. Tsi, *Dendrobium chrysanthum* Wallich ex Lindl., *Hetaeria rubens* (Lindl.) Benth. ex J. D. Hook., and *Nervilia plicata* (Andrews) Schltr.

Key words *Micropera* Lindl., *Micropera poilanei* (Guill.) Garay, *Liparis sparsiflora* Aver., *Nephelaphyllum pulchrum* Bl., Orchidaceae, new record, Hainan, China.

The diverse climate and terrain of Hainan, like Taiwan, creates wonderful habitats for survival of numerous orchids. Since 1930s, many orchidologists have been fascinated by the rich orchids of this island and they have visited this place, concentrating on the collection, identification and classification of orchids (Tang & Chen, 1977; Ding, 1991; Tsi et al., 1995; Jin et al., 2004; Jin & Siu 2004; Jin, 2005; Song, 2005). A monograph of orchids of Hainan was published in 1977 (Tang & Chen, 1977), and it is the first local orchid monograph in mainland of China. In 1995, Tsi and his colleagues made a general revision on the orchids of Hainan and they reported some new species and new records. However, the collection and classification of the orchids of Hainan is far from being finished. During the period of fieldwork on wild orchids in Hainan from 2003 to 2005, one genus and three species were found as new records to China and five other species were found new to Hainan. They are here reported in detail.

1. *Micropera* Lindl., Bot. Reg. 18: sub t. 1522. 1832. —*Camarotis* Lindl., Gen. Sp. Orch. Pl.: 219. 1833. Type: *Micropera pallida* (Guill.) Garay in Bot. Mus. Leafl. Harv. Univ. 23 (4): 186. 1972.

小囊兰属

Climbing monopodial epiphytes. Long stems with numerous roots emerging from intervals. Leaves narrowly oblong to linear, fleshy. Inflorescences simple, long, appearing opposite the leaves. Flowers small, fleshy, non-resupinate; dorsal sepal vertical and lateral sepals adnate to labellum; labellum fleshy, saccate or shortly spurred; the column usually without a foot; four pollinia nearly equal, semiglobular in appearance.

The genus comprises 14–15 species distributed from India (Sikkim) and Indochina east to Australia and the Solomon Islands (Seidenfaden, 1992). *Micropera poilanei* (Guill.) Garay was found in Hainan, China, and accordingly the genus *Micropera* was first reported occurring in China.

***Micropera poilanei* (Guill.) Garay** in Bot. Mus. Leafl. Harv. Univ. 23 (4): 186. 1972; Seidenf. in Opera Bot. 114: 382, fig. 256. 1992. —*Sarcanthus poilanei* Guil., Bull. Soc. Bot. Fr. 77: 330. 1930. —*Camarotis poilanei* (Guill.) Seidenf. & Smitin., Orch. Thail. 4

(2): 74, fig. 528. 1965. Type: Vietnam. Dong Che, *Poilane 10561* (holotype, P).

红花小囊兰 新拟

Epiphytic herb. Stem terete, glabrous, one meter or more, with internodes to about 2.5 cm, bearing many roots at intervals. Leaves coriaceous, linear, obtuse at apex and nearly sheathed at internodes by extension of base, 15–20 × 1.5–1.8 cm. Inflorescence raceme 20–25 flowered; rachis terete, glabrous, 24 cm long. Flowers smaller, white to greenish white, non-resupinate; bracts tiny, round triangular, 1 × 1 mm; ovary combined with pedicel 6 mm long; dorsal sepal coriaceous or subcoriaceous, spreading, linear, 7–8 × 1.5 mm, 3-indistinctly veined; lateral sepals linear, spreading, 6 × 1.5 mm, 3-indistinctly veined, closely adnate to four-fifth labellum; petals linear, 7–8 × 1.2–1.5 mm; labellum tri-lobed, lateral lobes, erect, with purple margin, 1–1.5 mm tall; middle lobe arched; spur conic, 2 mm long; column slender, erect, 6 mm tall; rostellum narrowly beaked, unlobed, 2 mm long; pollen held together as two separate pairs, 4 hard pollinia nearly equal, semiglobular, with a 2 mm long caudicle and a round-peltate viscidium. Fl. Mar.; fr. Sept. – Oct.

Distribution: China (Hainan) and Vietnam. Epiphytic on trees or rocks in mixed lowlands forest; alt. 200–500 m.

China. Hainan (海南): Changjiang (昌江), X. Q. Song (宋希强) 101 (PE); Danzhou (儋州), Z. H. Tsi (吉占和) & L. P. Siu (萧丽萍) 99623 (PE).

In 1999, Tsi identified a plant collected from Hainan as *M. poilanei*, but he did not publish the result.

2. *Liparis sparsiflora* Aver., Upda. Checkl. Orch. Viet.: 87–89. 2003. Type: Southern Vietnam. Kon Tum Prov.: Pac Glei Distr. *Vh 1064a* (holotype, HN; isotype, LE).

疏花羊耳蒜 新拟

Epiphytic herb 6–8.5 cm tall. Pseudobulbs densely clustered, ovoid to oblate, 6–8 mm tall, at the base with 2 membranaceous whitish scales. Leaf solitary, developing from the apex of pseudobulb, oblong, broadly lanceolate to narrowly ovate, acute or subobtuse apiculate, 4.8–7 × 0.9–1.4 cm. Inflorescence sparse, with 6-flowered spike, 3.5 cm long; inflorescence stalk obviously winged, 6 cm long, with or without single bract at the base; rachis slightly curved, zigzag, narrowly winged, 3.5 cm long; floral bracts ovate to broadly triangular ovate, acuminate, with distinctly convex green median vein. Flowers 10–12 mm across, pale greenish or whitish green; lip with deep green median longitudinal oblong stripe; pedicel combined with ovary 6 mm long, with narrow wing; dorsal sepal lanceolate to broadly lanceolate, obtuse at apex, with revolute edges, strongly reflexed, with median vein green on backside, keel obviously convex, 5–5.5 mm long, 1.5 mm wide; lateral sepals narrowly oblong, obtuse at apex, with median vein green on backside, obviously convex keel, 5–5.5 × 2 mm; petals linear, obtuse at apex, 5–5.5 × 0.2–0.3 mm, 1-veined; labellum oblong rectangular, 4–5 × 0.25–0.3 mm, strongly recurved outward, nearly parallel with column at the middle, deep green and thick along median plane, with 2 erect hemispheric deep green calluses at the base; column curved nearly vertical ovary, 2.5–3 × 1–1.2 mm wide, with narrow wings at apex; rostellum ligulate, entire. Fl. Oct.

Distribution: China (Hainan) and N. Vietnam. Epiphytic on *Homalium hainanense* Gagnep. in montane ridge forests; alt. 1200 m.

China. Hainan (海南): Changjiang (昌江), X. Q. Song (宋希强) 117 (PE).

This recently published species was reported restricted to Vietnam (Averyanoy & Averyanova, 2003). It can be easily distinguished from other species by having strongly recurved labellum and a deep green and thick blotch along median plane of labellum.

3. *Nephelaphyllum pulchrum* Bl., Bijdr. 373, tab., fig. 22. 1825; Hook., Fl. Brit. Ind. 6:

818. 1890; Aver. in Vasc. Pl. Syn. Vietnam Fl. 1: 123. 1990; Seidenf. in Opera Bot. 114: 82, fig. 41. 1992. — *Tainia pulchra* (Bl.) Gagnep. in Bull. Mus. Hist. Nat. (Paris) sér. 2, 4 (5): 706. 1932. — *Tainia latilabris* (Ridl.) Gagnep. in Bull. Mus. Hist. Nat. (Paris) sér. 2, 4 (5): 706. 1932.

美丽云叶兰 新拟

Plant creeping. Rhizome fleshy, 6–10 mm thick, with membranous sheaths ca. 5.0 cm long. Pseudobulb petiole-like, fleshy, cylindrical, 2–4 cm long, 10–12 mm thick, apex with one leaf. Leaf cordate to ovate-cordate, plaited at margin, 8.2–10 × 5–6.5 cm, apex acuminate, cordate at base; upper surface slightly green, with irregular brown patches, and a distinctive brown stripe on the middle vein; lower surface red, 3–7 veined; petiole fleshy, 2.5 cm long. Scape arising from the end of rhizome, 2.5–6 cm tall. Inflorescence a dense raceme, 2–6 flowered. Flowers erect, white, mediate size; bracts membranous, leaf-like, red, 1.0–1.2 cm long, 6–7 mm broad, enclosing the ovary and pedicel; ovary and pedicel together, 0.7 cm long; dorsal sepal mauve, narrowly lanceolate to linear, 1.8 cm long, 0.3 cm broad, 3-veined; lateral sepals mauve, slightly longer than dorsal sepal, lanceolate, 1.9 cm long, 0.3 cm broad, 3-veined; petals mauve, narrow ovate-lanceolate, 1.8 cm long, 0.3 cm broad, 3-veined; labellum white, entire, suborbicular, 1.8 cm long, 1.2 cm broad; an orange callus stripe, 1.8 cm long, 0.55 cm broad, on the middle of the upper surface of the labellum, with dense white lanugo at the margin of callus stripe from the base to the lower one-fourth of the tip; spur saccate, bilobed, 0.45 cm long, 0.3 cm in diameter, with strikingly dense lanugo at the entrance; column white, 0.7 cm tall, broad wings at two lateral sides; rostellum elliptic, deep brown; anther cap orange, with an irregular brownish spot. Fl. May–Jun.

Distribution: China (Hainan), Sikkim, Myanmar, Vietnam, Laos, Cambodia, Thailand, Malaysia, Singapore, Indonesia and Philippines. Terrestrial under the lower montane forests; alt. 1000–1500 m.

China. Hainan (海南): Baisha (白沙), X. Q. Song (宋希强) 134 (PE); Changjiang (昌江), X. Q. Song (宋希强) 121 (PE).

This species distinctly differs from *N. tenuiflorum* Bl. by having an erect inflorescence; the latter is also on Hainan.

4. *Dendrobium chrysanthum* Wallich ex Lindl., Bot. Reg. 15: t. 1299. 1829.

束花石斛

Stems clustered, pendulous, cylindrical, not branched, with many nodes. Umbellate inflorescence appearing from upper part of leafy stem, nearly sessile, 2–6 flowered. Flowers yellow, with two brownish-purple blotches on labellum. Stems are used as Chinese traditional medicine. Fl. Oct.

Distribution: China (C Hainan, NW to SW Guangxi, S to SW Guizhou, SE Xizang and W to SE Yunnan), Bhutan, N India, Laos, Myanmar, Nepal, Sikkim, Thailand and Vietnam. Epiphytic on rocks in low rainforests along valleys; alt. 400–500 m.

China. Hainan (海南): Changjiang (昌江), X. Q. Song (宋希强) 162 (PE).

5. *Hetaeria rubens* (Lindl.) Benth. ex J. D. Hook., Fl. Brit. India 6: 115. 1890.

滇南翻唇兰

Rhizome elongate, creeping. Stem ascending, glabrous, with 6–8 spaced leaves. Inflorescence a raceme, 10–20 flowered, floral bracts lanceolate, entire. Flowers unresupinate; labellum unlobed, base with 2 separate, oblong, 4-lobed callus. Fl. Mar.–Apr.

Distribution: China (Hainan and S to SE Yunnan), NE India, N Myanmar, Sikkim and Thailand. Terrestrial in lowland rain forests; alt. 600–800 m.

China. Hainan (海南): Ledong (乐东), X. Q. Song (宋希强) 089 (PE).

6. *Nervilia plicata* (Andrews) Schltr., Bot. Jahrb. Syst. 45: 403. 1911.

毛叶芋兰

Leaf solitary, appearing after anthesis; leaf blade pale to dark green; apex acute, cordate at base, setulose throughout on both surfaces especially along veins. Flowers brownish-yellow or pale red, floral bracts lanceolate, shorter than ovary. Fl. May–Jun.

Distribution: China (Fujian, S Gansu, Guangdong, Guangxi, Hong Kong, Sichuan, S Taiwan and Yunnan), Bangladesh, India, Indonesia, Laos, Malaysia, Myanmar, Papua New Guinea, Philippines, Sikkim, Thailand, Vietnam and Australia. Terrestrial in shady and damp forests along valleys; alt. 600 m.

China. Hainan (海南): Danzhou (儋州), *X. Q. Song* (宋希强) 102 (PE).

7. *Panisea cavaleriei* Schltr., Repert. Spec. Nov. Regni Veg. 20: 383. 1924.

平卧曲唇兰

Pseudobulbs connected each other by many separate short rhizomes, prostrate in lower part, upper part curved upward; solitary leaf at apex. Fl. Dec. –next Apr.; fr. Oct. –Nov.

Distribution: China (SW Guangxi, SW Guizhou, Hainan and C to SE Yunnan). Epiphytic on trees or shady rocks in montane ridge forests; alt. 1000 m.

China. Hainan (海南): Ledong (乐东), *X. Q. Song* (宋希强) 145 (PE).

8. *Panisea yunnanensis* S. C. Chen & Z. H. Tsi, Acta Bot. Yunnan. 2: 301. 1980.

云南曲唇兰

Rhizome densely covered with brown sheaths. Pseudobulbs rather dense, narrowly ovoid to ovoid, with two leaves at apex. Labellum oblong-spathulate, without lamellae or other appendages. Fl. Oct. –Nov.

Distribution: China (S Hainan and SE Yunnan). Epiphytic on tree in montane evergreen forests; alt. 1600 m.

China. Hainan (海南): Wuzhishan (五指山), *X. Q. Song* (宋希强) 156 (PE).

References

- Averyanov L V, Averyanova A L. 2003. Updated checklist of the orchids of Vietnam. Hanoi: Vietnam National University Publishing House. 1–101.
- Ding S-Y (丁慎言). 1991. New records of Orchidaceae from Hainan. Bulletin of Botanical Research (植物研究). 11 (3): 23–25.
- Jin X-H. 2005. *Bulbophyllum wuzhishanense* (Orchidaceae), a new species from Hainan, China. Brittonia 57: 255–257.
- Jin X-H, Chen S-C, Qin H-N, Zhu G-H, Siu G L-P. 2004. A new species of *Didymoplexiella* (Orchidaceae) from China. Novon 14: 176–177.
- Jin X-H, Siu G L-P. 2004. *Trichotomia dongfangensis* (Orchidaceae), a new species from China. Annales Botanici Fennici 41: 465–466.
- Seidenfaden G. 1992. The Orchids of Indochina. Opera Botanica 114: 381–382.
- Song X-Q (宋希强). 2005. Studies on the Wild *Dendrobium* Germplasm Resources in Hainan Island with Special Reference to Conservation Biology of *D. sinense*. Ph.D. Dissertation. Beijing: Beijing Forestry University.
- Tang J (唐进), Chen S-C (陈心启), 1977. Orchidaceae. In: Flora Hainanica (海南植物志). Beijing: Science Press. 4: 185–264.
- Tsi Z-H (吉占和), Chen S-C (陈心启), Ding S-Y (丁慎言). 1995. Critical and additional notes on orchids of Hainan, China. Acta Phytotaxonomica Sinica (植物分类学报) 33: 576–591.

海南兰科植物新资料

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摘要 报道了中国兰科Orchidaceae植物一新记录属和3个中国新记录种及5个海南新记录种。其中小囊兰属*Micropera* Lindl.、红花小囊兰*Micropera poilanei* (Guill.) Garay、疏花羊耳蒜*Liparis sparsiflora* Aver. 和美丽云叶兰*Nephelaphyllum pulchrum* Bl.为中国新记录; 平卧曲唇兰*Panisea cavaleriei* Schltr.、云南曲唇兰*Panisea yunnanensis* S. C. Chen & Z. H. Tsi、束花石斛*Dendrobium chrysanthum* Wallich ex Lindl.、滇南翻唇兰*Hetaeria rubens* (Lindl.) Benth. ex J. D. Hook. f.和毛叶芋兰*Nervilia plicata* (Andrews) Schltr.为海南新记录种。

关键词 小囊兰属; 红花小囊兰; 疏花羊耳蒜; 美丽云叶兰; 兰科; 新记录; 海南; 中国